THE PROGRESSIVE FARMER.

THE INDUSTRIAL AND EDUCATIONAL INTERESTS OF OUR PEOPLE PARAMOUNT TO ALL OTHER CONSIDERATIONS OF STATE POLICY.

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WE'VE ALWAYS BEEN PROVIDED FOR.

"Good wife, what are you sighing for? You know we've lost the hay,
And what we'll do with horse and kye is more than I can say;
While like as not, with storm and rain, we'll lose both corn and wheat."
She looked up with a pleasant face, and answered low and sweet:
"There is a Heart, there is a Hand, we feel, but cannot see;
We've always been provided for, and we shall always be."

He turned around with a sudden gloom. She said: "Love, be at rest,
You cut the grass, worked soon and late, you did your very best,
That was your work; you've naught at all to do with wind and rain,
And do not doubt but you will reap rich fields of golden grain;
For there's a Heart, and there's a Hand, we feel, but cannot see;
We've always been provided for, and we shall always be."

"That's like a woman's reasoning—we must, because we must."
She softly said: "I reason not; I only work and trust;
The harvest may redeem the day—keep heart what e'er betide;
When one door shuts, I've always seen another open wide.
There is a Heart, there is a Hand, we feel, but cannot see;
We've always been provided for, and we shall always be."

He kissed the calm and trustful face; gone was his restless pain.
She heard him with a cheerful step go whistling down the lane,
And went about her household tasks full of a glad content,
Singing to time her busy hands as to and fro she went:
"There is a Heart, there is a Hand, we feel, but cannot see;
We've always been provided for, and we shall always be."

Days come and go—'twas Christmas tide, and the great fire burned clear.
The farmer said: "Dear wife, it's been a good and happy year;
The fruit was gain, the surplus corn has bought the hay you know."
She lifted then a smiling face, and said: "I told you so!
For there's a Heart, and there's a Hand, we feel, but cannot see;
We've always been provided for, and we shall always be."

Agricultural.

TOBACCO.

How to Manage It.

FROM THE PLANT-BED TO THE WAREHOUSE.

As promised in our issue of last week, THE PROGRESSIVE FARMER intends to collect and give to its readers the very best information on the cultivation of tobacco, from the most reliable sources. We find in the *Union Republican*, "Extracts from information compiled for the Winston and Salem Chamber of Commerce," from which we take the following, relating to the seed and plant-bed. These suggestions are practical and pointed and evidently emanate from a source entitled to respect:

The question of seed for the crop is one of prime importance and should receive special care. That variety should be selected which is known to yield on suitable soil the smoothest leaf with rich waxy body and best flavor and color, to insure highest prices, and consequently the greatest profit. When this is done the next important step is to properly prepare the plant bed in a suitable place. In the selection of soil for beds, it is desirable to choose new clayey ground, with dark, rich soil or near the base of a hill sloping to the South or East. Lands with maple growth are thought to be preferable.

Dig up the bed in January to the depth of three or four inches, and then burn over it sufficient wood or brush to kill all grass or other seed or bugs that may be in the ground. then cover with old stable or hog manure well rotted and free from seeds, one to two inches, and dig it in well with a mattock or hoe. Let the bed remain till seed time, say about the 15th of February, then thoroughly rake and pulverize the soil, removing every clod, root or stone.

SOWING SEED.

Mix dry seed with dry leached ashes and sow evenly, and not too thick, on a still day and rake lightly. Pat the bed with a wide shovel or tramp with a board. The most convenient width both for drawing the plants without stepping upon the beds and also for securely covering with canvass is about 5 feet. Large beds can easily be divided in this way with 16 to 18 inch walks. It is now a well settled fact that no farmer can afford to neglect the use of canvass as a protection both against bugs or fleas and frost, and also to hasten and promote the growth of plants, for, by its use, with proper care in preparing the bed and sowing good seed, failure is next to impossibe.

USING CANVASS.

The manner of using the canvass will suggest itself to all who have not used it, but it may be mentioned in this conuection that a very satisfactory and effective mode has been found by placing along the sides and ends of the bed boards 8 to 10 inches wide, and the stretching of the canvass sufficiently tight to prevent sagging, not neglecting however to arrange it so it can be readily removed when the time comes for airing the plants. The canvass may be looped to poles of sufficient weight to hold it in place and can then be easily removed when desired. The covering should be put on immediately after sowing as a protection against severe weather and for the retention of heat and moisture. If the winter is severe sowing may be delayed till March with good results, and plants will be ready for transplanting by 1st to 10th of May. To harden the plants the canvass should be removed 10 days to two weeks before it is intended they shall be drawn, from 9 in the morning to 4 in the afternoon. To preven breaking the roots when plants are drawn, the beds should be moist. An ounce of seed will sow about 300 square feet and produce from 20,000 to 22,000 good plants, sufficient to plant 4 to 5 acres. The same bed may be used the following year or longer after being treated in like manner as the first, but care must be taken to pull up all the plants and weeds and cover the bed with old leaves and brush. Some growers maintain however that the best results are obtainable upon new beds. After the plants are up their growth if need be may be hastened by applying liquid manure with a brush or sprinkler with a fine nozzle, or fresh horse mauure dried and pulverized and sifted over the bed as often as may be needed; care should however be taken that the growth is not too rapid, as over feeding is injurious. It is well to make two or three sowings at different times to provide against possible accident and insure plants sufficient for replanting, &c. Every grower will of course, in selecting his plant bed keep in view the three essentials, viz: light, heat and moisture. Some farmers prefer to sprout the seed before sowing and this is believed to be a good plan when the Spring is late. Sprouting may be successfully done in various ways, by moistening the seed in a sack and burying in earth kept warm and moist, or placing the seed in a small sack made of heavy woollen cloth and dipping the sack in water at blood heat and hanging in a warm place where the temperature can be kept nearly even. The sack should be dipped 3 to 4 times the first two days, after which twice a day will be sufficient, till sprouted. The seed should remain in the water each dipping, long enough to get well wet. When the hull bursts and shows a small white spot the seed should be sown, if delayed the sprouts will get too long and be broken off in handling and make unthrifty plants. Ashes should not be used in sowing sprouted seed, corn meal or coarse flour is good, gently rolling the seed in it until the moisture is taken up when it separates them like shot.

DR. BENBOW'S EXPERIENCE WITH ENSILAGE.

Some Sensible Suggestions to our Farers and their Boys.

[For the PROGRESSIVE FARMER.]

I have been using ensilage for four years with great satisfaction and economy, and have each year increased my capacity—and each year failed to have a supply.

Last season I put up 550 tons; when Spring comes I will be out. So that you see it does not *keep* well for me.

Our farmers are hard to induce to adopt other plans than those of their forefathers—after reading for years of ensilage they fear it will *spoil*, knowing that no vegetable will sooner spoil than cabbage—and cabbage cut up, packed into an air-tight barrel and the *krout* will keep so long as the pressure is kept on and air excluded

Still, because their mothers did not keep green corn for their cow's Winter supply they fear to try the experiment.

Three suggestions:

1st. There is not a cow-feeder in the State that does not admit green corn to be the best milk producing food he can give.

2nd. There is not one that does not know that corn fodder green is worth very much more than after it has been dried.

3rd. It is further admitted that more pounds of corn fodder can be produced per acre upon our North Carolina soil than any other crop.

Now, if I am correct in these three propositions—and that it can be preserved in its green state without any risk of failure- and at a cost any farmer who feeds his stock can well afford; I ask, in all seriousness, why do our farmers fail to adopt the system. Save labor—furnish better relished provender, economise barn space, make more butter, increase the *home-made* manure pile, raise larger crops, feed more cattle and make home a place where the *last* boy will not long to arrive at the age of 21, when he too can leave his father's old dilapidated homestead for the prosperous West, where he has to do a year's work in six months and go in doors and try to keep warm the balance of the year; whereas, in this State, there is *never* a Winter long enough to prevent his doing part of his indoor work at a time when he could just as well be out of doors.

It is easy to raise fifteen tons of corn ensilage to the acre at a cost of six dollars, then for about as much more it can be cut and put into the silo, and with sixty pounds of this ensilage mixed with as much meal as is usually given on dry cut hay per day, will make more milk, for less money, with half the trouble in feeding, and be better relished by the cow, being more conducive of health. Figure on this last and test the statements· One acre will produce all the forage one cow can possibly eat in a whole year. It can be stored in a space of 365 cubit feet (less space than her own stall occupies.)

Then where is any expensive structure? As you suggest I will again tell you the cost of silo and give plan of building it cheaply.

Respectfully,

D. W. C. BENBOW.

Greensboro, N. C.

MAJ. GARRETT AGAIN ON ENSILAGE.

[From a letter to Col. Ott, Richmond, Va.]

I have been putting up ensilage and feeding it for over five years, and my experience causes me to value it more and more highly as I learn how to take care of it more cheaply. When I built my first silos, in the summer of 1880, the idea was that only those built of cement or brick, in the ground, would answer the purpose, and costing at least $5 per ton to build. Now they are built on top of the ground, entirely of wood and earth, and at a cost of from 75c. to $1 per ton. These keep the ensilage as well as those constructed of cement or brick, are much more convenient and involve less labor to feed from, I have two wood silos, built in 1881. above ground, and holding 180 tons, both costing not more than $125, the repairs since, not exceeding $25, which are now in good order and full of ensilage, and have been filled every year since they were built. The contents without exception have been fed in good condition. The silos I built in 1880 (of cement below ground), held 125 tons, and cost me about $3 per ton. These also have been filled every year since (sometimes twice a year), and the ensilage was not any better preserved than in those built of wood. Since I began to make ensilage, in the fall of 1880, I have fed my horses, mules, and cows almost exclusively on it, and have yet to see any bad results from it; on the contrary, I have been able to keep them in much better condition than before I commenced its use. In the year 1879 I had nine mules and horses, and about as many cattle, and besides the long forage I could conveniently make on my farm, I paid out over $700 for hay, bought by the carload in Richmond. I am now feeding fifteen head of horses and mules, and thirty cattle, and pay out nothing for hay, and my farm is no larger now than it was then. The extra manure I now produce pays me fully, I am persuaded, for the cost of the ensilage. I use corn and cow-pea vines exclusively for ensilage—the former, as I use it, is cheaper; the latter makes the best ensilage.

For the past three years I have used corn constantly for this purpose, after it was sufficiently matured to sustain no injury, when the blades were ripe enough for fodder. I pull the corn, then cut the stalks down to the ground (blade on), haul and cut them in three-quarter inch lengths, and pack in the silo; then weigh as usual. This makes a very desirable food; the stock all like it, and I have never seen any bad effects from it; During the three years named I have put up 100 tons per year from this source. My experience is that land producing five barrels of corn to the acre will will make five tons of ensilage, or a ton to the barrel. I regard the ensilage as more valuable than corn, and the cost of putting it into the silo is less than seventy-cents per ton. I grow no corn exclusively for ensilage; most of it made in the United States is from corn grown expressly for the purpose. I am of opinion that at the times I cut it, it is as valuable for ensilage as at any period of its growth—hence a great saving in making both a crop of corn and ensilage. I see that others are adopting this plan to advantage.

My great plant for ensilage is the ordinary field or cow-pea. Of this I put up about 200 tons yearly, and it is greatly preferred by my stock to that made of corn. This pea crop I grow chiefly after wheat and oats. I break the land as soon as the wheat is taken off, then plant in drills three feet apart, eight to twelve peas in a hill, using the Eureka corn planter, dropping every twenty-one inches; side them up once or twice, if need be and grass is troublesome; plant from the 25th of June to the 10th of July, which gives ample time for the maturity of the plant for ensilage, producing from five to ten tons per acre, at a cost not exceeding $1.50 per ton, and worth 25 per cent more in feed value that corn at any stage of its growth. With this plant properly utilized with the system of ensilage, the South can feed and raise sheep, cattle, mules and horses as cheaply as any portion of the United States except the very far West. This fact will be demonstrated some day. I give to my mules and cows about fifty pounds of ensilage each per day. I have often seen published a statement that cornstalks or any other suitable material made good ensilage without chopping up fine with cutter. For fear of loss I have been afraid to try it. A neighbor who built a silo three years ago had his silo, machinery, and cutter burned up last winter. The silo was rebuilt last summer and filled with cornstalks and pea vines, uncut. This ensilage is as good as any I have ever seen—sweeter than mine, which was cut fine, and is a little more trouble to take from the silo than that cut fine. I shall put up a large portion of mine next year without cutting.

HOW SCREWS ARE MANUFACTURED.

The art of making screws is an art perfected by the genius of mechanical invention. The best screws are made of "charcoal-iron" wire. The wire goes first, in a coil, to the "headers." By the heading machine the wire is bitten off to the desired length at the rate of from one to two and one-half per second, that is, of the length of a screw the size of which is to be made, and 'upset" to the shape of the head. The machine known as the "header" is very solid. The wire fed into it is cut, or bitten, and simultaneously a head is "put on" it by a blow, which, to speak humanly, must have been unexpected, inasmuch as it is secondary and sudden. Now the bit of wire comes out of the header in the length of the size of screw it is to be, and with the head on, but no thread. It goes next to the cylinder, where it is rattled in sawdust to brighten and clean it. After being cleaned the screw bits, as they still are, are placed in the storeroom till wanted, when they are brought to the shaving machines, where the head is shaved and the slot cut. They are then washed in hot soda water to clean them and sent to the threading machine, where the thread is cut. "A duck drinking water" is what an enthusiastic gentleman likened the screw-threading machine to, and well he might, for anything more like nature in its operation it is impossible to find in the whole range of automatic machinery. The blank screws, as they left the header, were emptied into a pan supported by a revolving standard at the side of the threader. Over the pan dip two iron fingers, which scoop from the pan all they can hold of the blank screws. These fingers, when full, are automatically tipped backwards, feeding down the blanks to the body of the machines. Now, one by one, as they drop into place, two iron fingers pick them up and put them in position to be treated. In a moment it is done. To be exact, at the rate of twenty per minute the screws went through the "shaver" and at the rate of ten per minute the threader turns them out. Between each of the three steps of the process of manufacture—heading, shaving and threading—a careful assorting of them is done, and all imperfect ones rejected. Finally in the packing-room, the last sorting is given, to make sure none but perfect ones are put up in boxes for the market. The screws are put into paper boxes holding each one gross, and these boxes are bundled into ten-gross packages, the largest size being put up in five-gross packages as well as in ten. The packer who wraps the boxes into the ten-gross bundles does it at the rate of three bundles in two minutes, and works as neatly and automatically as the machines in the mill.

—Cattle prefer well, properly-cured ensilage to dry food. Any plant good for cattle when fresh can be ensiloed. Silos may be filled slowly or rapidly. Four times as much weight of ensilage can be stored in the same space than if stored in the shape of dry fodder. A moderate feeding of ensilage should he given rather than entire substitution.

—In determining to sell fertilizers for money, only, and no longer to take pay in cotton, the merchants of Shelby have taken the first step in the reform of the business methods of this section.—*New Era.*